

REMARKS

Claims 1-20 are pending in the application. Claims 17-20 have been newly added herewith.

Claim Rejections

A) 35 U.S.C. § 102(e)

Claims 1-5, 7-9, 11, 12 and 15 stand rejected under 35 U.S.C. §102(e) as allegedly being anticipated by Soga (U.S. Patent No. 6,490,790). Applicants respectfully traverse this rejection at least because Soga fails to teach or suggest a second forging work after a first forging work.

Claim 1 sets forth actuating a first punch and then actuating a second punch while the first punch is at its maximum stroke position. In contrast, the alleged second punch of Soga is actuated before the first punch is at its maximum stroke position. The Examiner asserts that moveable upper die 1 and fixed lower die 2 of Soga constitute a first punch and that large-end punches 6₁, 6₂ and small-end punches 7₁, 7₂ constitute a second punch. However, even if these dies and punches of Soga could be considered first and second punches, they do not operate in the manner of claim 1.

As stated above, the alleged Soga second punch is actuated before the alleged Soga first punch reaches a maximum stroke position. With reference to Soga Figs. 2A and 2B, the large-end and small-end punches 6₁, 6₂, 7₁, and 7₂ begin to compress the outer portions of perform W' before the upper die 1 reaches its maximum position. When the upper die 1 reaches a maximum position in Fig. 2B, the ends of W' have already been partially compressed. Accordingly, the Soga second punch is actuated before the first punch reaches a maximum stroke position, and claim 1 is allowable over Soga.

Claims 2-5 depend from claim 1 and are therefore allowable at least because of their dependency.

Claim 7 sets forth a predetermined delay between the end of a first forging work and the beginning of a second forging work. As discussed with reference to a non-limiting embodiment of the specification, in the paragraph bridging pages 46 and 47, a predetermined delay between operation of a first and a second punch reduces stress in the plate member. Soga fails to teach a predetermined delay between the end of a first forging work and the beginning of a second forging work and therefore does not benefit from a reduction in stress. Accordingly, claim 7 is allowable over Soga at least because Soga fails to teach a predetermined delay as claimed.

Claims 8, 9, 11, 12 and 15 depend from claim 7 and are therefore allowable at least because of their dependency.

B) Claim Rejections - 35 U.S.C. § 103(a)

Claims 13 and 14 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Soga (U.S. Patent No. 6,490,790). Applicants respectfully traverse this rejection in view of the following arguments.

Claims 13 and 14 depend from claim 1. Even if, for the sake of argument alone, it would have been obvious to modify the sizing and material of Soga, such modification still would not correct the above-noted deficiencies of Soga with respect to claim 1. Accordingly, dependent claims 13 and 14 are allowable over Soga.

C) Claim Rejections - 35 U.S.C. § 102(b)

Claims 1-11 and 15 stand rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Okunishi (U.S. Patent No. 4,126,492). Applicants respectfully traverse this rejection in view of the following arguments.

Again, claim 1 sets forth actuating a first punch performing a first forging work to mold a first member in a plate member and then actuating a second punch to perform a second forging work while the first punch is at its maximum stroke position. In contrast, Okunishi teaches a second punch which is actuated before the first punch (performing the first forging work) is at a maximum stroke position. Initially the Examiner states that the first punch is comprised of elements 33, 52 and 58, and later asserts that the first forging work includes work done by elements 22 and 36. As can be seen in Fig. 2, the forging work done by elements 52 and 58 is only started when the alleged second punch 32 is activated and is not completed until after the alleged second punch 32 has been actuated. Additionally, elements 22 and 36, which the Examiner considers as part of the first forging work, are clearly not at a maximum stroke position until after the second punch has been actuated. Instead, the second punch 32 is activated before the first punch (52, 58, 36, 22) is at its maximum stroke position, and thus claim 1 is allowable over Okunishi.

Claims 2-6 depend from claim 1 and are therefore allowable at least because of their dependency.

Claim 7 sets forth a predetermined delay between the end of a first forging work and the beginning of a second forging work. As discussed with reference to a non-limiting embodiment

of the specification, in the paragraph bridging pages 46 and 47, a predetermined delay between operation of a first and a second punch reduces the stress. Okunishi fails to teach a predetermined delay between the end of a first forging work and the beginning of a second forging work and therefore does not benefit from a reduction in stress. Accordingly, claim 7 is allowable over Okunishi at least because Okunishi fails to teach a predetermined delay as claimed.

Claims 8-11 and 15 depend from claim 7 and are therefore allowable at least because of their dependency.

New Claims

Applicants have added new claims 17-20 to provide more varied protection for the invention. Claims 17 and 19 depend from claim 1 and claims 18 and 20 depend from claim 11. Therefore, claims 17-20 are allowable at least because of their dependency.

Conclusion

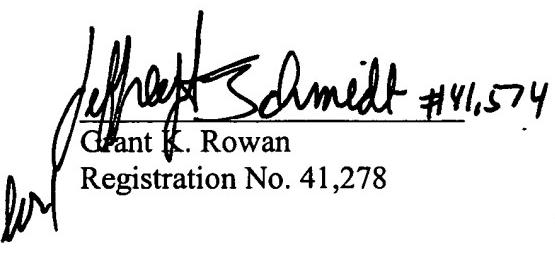
In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

AMENDMENT UNDER 37 C.F.R. § 1.111
U.S. Application No. 10/647,115

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The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

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